

# **Emerging Markets / Pilot Projects 1**

## **Wind-Diesel 2002 Workshop**

**Anchorage, AK**

**September 23-24, 2002**



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada 

# Remote Communities in Canada

- More than 300 Remote Communities in Canada
- Total Population: ca. 200,000
- Highly Dependent on Foreign Oil
- Increase Contribution of Renewables

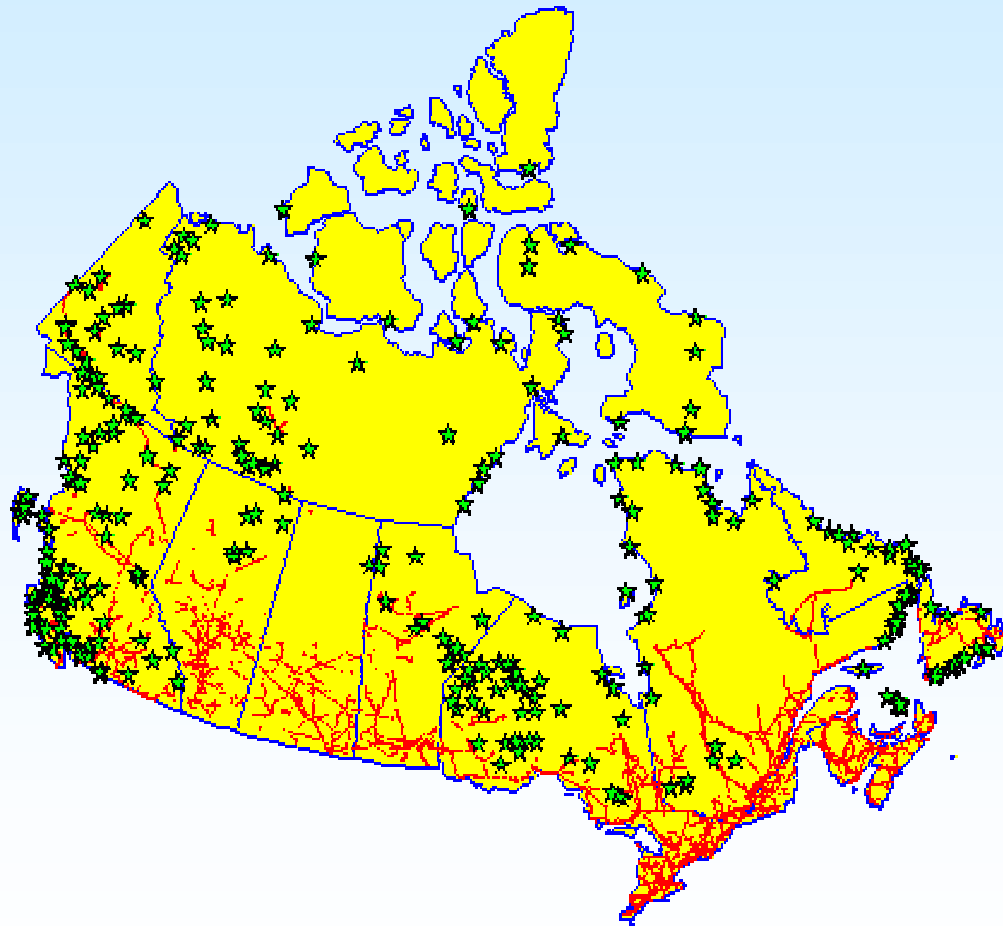


Natural Resources  
Canada

Ressources naturelles  
Canada

Canada 

# Remote Communities in Canada



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada

# Renewable Energy in Remote Communities

- Biomass
  - Wood
- Solar
  - Experimental PV-Diesel
  - Solar Thermal
- Small Hydro
  - Yukon
  - Northwest Territories
- Wind Energy



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada

# Wind Energy

- Significant in the Last Fifteen Years
- Attractive at Several Locations
  - Along the Coastline
- Large Undeveloped Potential

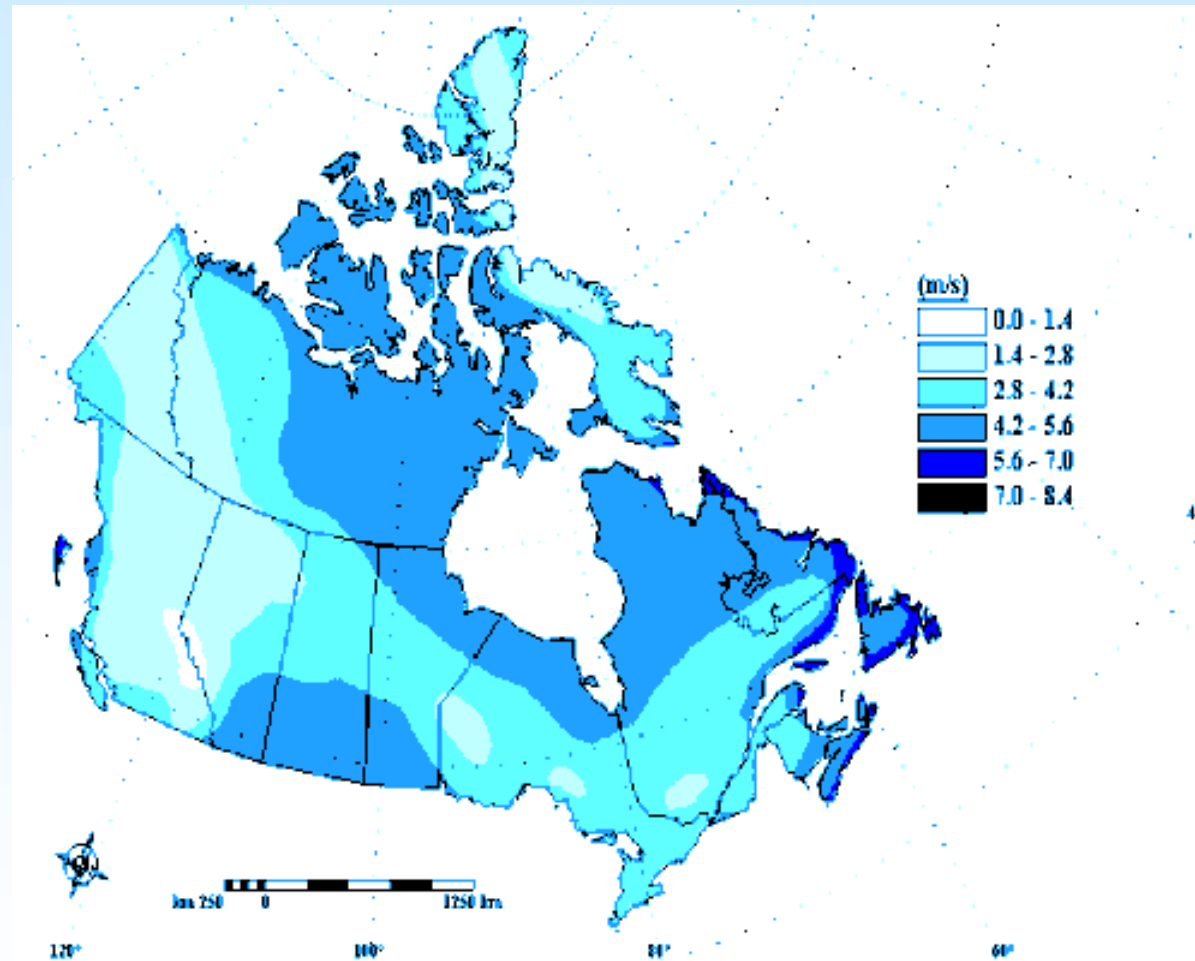


Natural Resources  
Canada

Ressources naturelles  
Canada

Canada 

# Annual Average Wind Speed



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada

# Operational Experiences: Nunavut

- Existing Potential for Fuel Savings
  - Ex.: Cambridge Bay, 80 kW Turbine
  - 1995: 155,364 kWh WE Displaced 41,877 liters
- Extensive Planning Required
  - Ex.: Rankin Inlet, Relocation Due to Airport Requirements
- Availability of Dependable Turbines
- Develop an Expertise Through a Large Number of Projects



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada

# Recent Technical Development & Achievement

- AWTs Completed a Wind-Diesel Integrated Control System (WDICS)
  - Provides HPWD
  - Controls All Operating Equipment within the Electrical Generating System
- Sagar Island Project



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada 